

What is claimed:

1. A system for treating tissue within a target tissue region, comprising:
a source of magnetic beads configured for delivering magnetic beads into a target
tissue region;

5 a first elongate member comprising a proximal end, a distal end configured for
introduction into the target tissue region, and a magnet carried by the distal end, the
magnet configured for inducing a magnetic field within the target tissue region to cause
magnetic beads within the target tissue region to migrate in a desired manner; and
a source of energy for delivering energy for treating tissue within the target tissue
10 region, the magnetic beads configured for at least one of attenuating and enhancing
treatment of the tissue with the energy.

2. The system of claim 1, wherein the magnet is an electromagnet, and
wherein a source of energy is coupled to the electromagnet for selectively activating the
15 electromagnet.

3. The system of claim 1, wherein the source of magnetic beads comprises a
second elongate member comprising a proximal end, a distal end configured for
introduction into the target tissue region, and a lumen extending between the proximal
20 and distal ends for delivering magnetic beads from the source of magnetic beads to one or
more outlets in the distal end of the second elongate member.

4. The system of claim 3, wherein the first elongate member comprises a catheter insertable into a vessel contacting or passing through the target tissue region.

5. The system of claim 4, wherein the second elongate member comprises a
5 cannula that may be introduced into the target tissue region until the distal end of the cannula is disposed adjacent the vessel.

6. The system of claim 5, wherein the cannula comprises a sharpened distal tip to facilitate insertion through tissue.

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7. The system of claim 4, wherein the second elongate member comprises a flexible tubular member insertable into another vessel contacting or passing through the target tissue region.

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8. The system of claim 1, wherein the source of energy comprises one or more electrodes having a size for introduction into the target tissue region, and a electrical generator coupled to the one or more electrodes for delivering electrical energy to the electrodes, the magnetic beads comprising electrically conductive material.

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9. The system of claim 8, wherein the one or more electrodes comprise one or more needles insertable through tissue.

10. The system of claim 1, wherein the first elongate member comprises a catheter insertable into a vessel contacting or passing through the target tissue region.

11. A method for treating tissue within a target tissue region, comprising:
5 introducing magnetic beads into the target tissue region;
generating a magnetic field within the target tissue region to cause migration of the beads; and
delivering energy to treat tissue within the target tissue region, the magnetic beads enhancing treatment of the tissue.

10 12. The method of claim 11, wherein the magnetic beads are introduced into the target tissue region by introducing a cannula into the target tissue region, the magnetic beads being delivered into the target tissue region from the cannula.

15 13. The method of claim 11, wherein the magnetic beads are introduced into the target tissue region by introducing a catheter into a vessel contacting or passing through the target tissue region, the magnetic beads being delivered into the target tissue region from the catheter.

20 14. The method of claim 11, wherein the magnetic field is generated by introducing an elongate member into the target tissue region, the elongate member carrying a magnet thereon.

15. The method of claim 14, wherein the elongate member comprises a catheter introduced through a vessel contacting or passing through the target tissue region, the catheter being manipulated to place the magnet at a desired position within the target tissue region.

16. The method of claim 11, wherein the magnetic beads are caused to migrate towards a vessel contacting or passing through the target tissue region to enhance delivery of energy to tissue adjacent the vessel.

17. The method of claim 11, wherein the step of delivering energy comprises introducing one or more electrodes into the target tissue region, and delivering electrical energy to the target tissue region via the one or more electrodes, the magnetic beads comprising conductive material for enhancing delivery of the electrical energy to the target tissue region.

18. The method of claim 17, wherein the one or more electrodes comprises one or more needles inserted into the target tissue region.

19. The method of claim 11, wherein the magnetic beads carry a therapeutic agent for treating tissue.

20. A method for ablating tissue within a target tissue region, the target tissue region comprising a blood vessel contacting or passing through the target tissue region, the method comprising:

introducing magnetic beads into the target tissue region;

5 generating a magnetic field within the target tissue region to cause the magnetic beads to migrate towards a wall of the vessel; and

delivering energy into the target tissue region to heat tissue therein, the magnetic beads enhancing heating of tissue adjacent to the vessel.

10 21. The method of claim 20, wherein the magnetic beads are introduced into the vessel, and the magnetic field causes the magnetic beads to migrate against an inner surface of the wall of the vessel.

22. The method of claim 21, wherein a magnet is introduced into tissue within
15 the target tissue region adjacent the vessel to generate the magnetic field.

23. The method of claim 21, wherein a magnet is introduced into another vessel contacting or passing through the target tissue region to generate the magnetic field.

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24. The method of claim 20, wherein the magnetic beads are introduced into tissue within the target tissue region, and wherein the magnetic field causes the magnetic beads to migrate towards the vessel.

5 25. The method of claim 24, wherein a cannula is introduced into the target tissue region to deliver the magnetic beads into the tissue within the target tissue region.

26. The method of claim 24, wherein a magnet is introduced into the vessel to generate the magnetic field.

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